CALIFORNIA HIGH-SPEED TRAIN

Program Environmental Impact Report/Environmental Impact Statement

Los Angeles to San Diego via Inland Empire

Traffic, Transit, Circulation, and Parking Technical Evaluation

January 2004

Prepared for:

California High-Speed Rail Authority

U.S. Department of Transportation
Federal Railroad Administration

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

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CALIFORNIA HIGH-SPEED TRAIN PROGRAM EIR/EIS

Task 2.4

Los Angeles to San Diego via Inland Empire

Traffic, Transit, Circulation and Parking Technical Evaluation

Prepared by:

HNTB

in association with

CH2MHILL

JANUARY 2004

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ACRONYMS

ARB	Air Reserve Base
Authority	California High-Speed Rail Authority
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
HST	high-speed train
I-	Interstate
IC	Information Center
km/h	kilometers per hour
LOSSAN	rail corridor from Los Angeles to San Diego through Orange County
MOA	Memorandum of Agreement
mph	miles per hour
NEPA	National Environmental Policy Act
RTP	Regional Transportation Plans
SHPO	State Historic Preservation Officer
SR	State Route
STIP	State Transportation Improvement Program
U.S.	United States

1.0 INTRODUCTION

The traffic, transit, circulation and parking analyses for this program-level EIR/EIS were focused on a broad comparison of potential impacts to traffic, transit, circulation and parking along corridors for each of the alternatives (modal and high-speed train alternatives) and around stations. The potential impacts for each of these alternatives were compared with the No-Project Alternative.

Highway, roadways, passenger transportation services (bus, rail, air, intermodal), transit facilities, goods movements and parking issue were evaluated in the analyses. Transportation facilities, highways and roadways included in the analyses: 1) serve as the primary means of access to proposed rail stations and airport facilities as well as highway/roadway improvements/new facilities in the Modal Alternative; and 2) are within one mile of proposed rail stations and (in the Modal Alternative) airports and major routes along alignment/highway corridors.

Initial analysis included identifying primary routes to be considered including highways designated in the No-Project and Modal alternatives and all modes of access to the stations areas and airport areas in the Modal and HST Alternatives, respectively. The primary routes/modes of access for the stations and airports considered assumptions for distribution of trips by direction.

Once primary routes were identified, screenlines or cordons combining segments of the primary routes which reasonably represent locations for evaluating in the aggregate baseline traffic and public passenger transportation conditions (using data for 2002, 2020 or other similar years as available) in the morning peak-hour were selected. No new traffic counts were made where data was not available, and the respective MPO regional travel forecasting models were assumed sufficiently accurate for purposes of forecasting traffic on the screenlines or cordons chosen. Baseline (2002 and 2020 as available data allowed) ratios of demand to capacity across each screenline or cordon for roadway and public transportation facilities were then established using Highway Capacity Manual standards for capacity.

Next, baseline conditions (2002, 2020) were characterized for goods movement (truck/freight) in the general area of study (primarily to identify key goods movement means/corridors) and for parking in the vicinity of stations and airports. Parking conditions are based on any 2002 parking reserves, local plans for major parking expansion, and adequacy of local parking codes for meeting No-Project growth in demand.

Trip generation was then calculated by adding to baseline volumes forecasted 2020 demand for high-speed rail and (for the Modal alternative) airports, or highways comprising alternatives, plus local trips in 2020 generated by project-related development (as data are available) and trips due to induced growth. Additional trips were distributed to the identified screenlines or cordons (roadway and public transportation) and added those trips to the appropriate baseline volumes for each screenline or cordon. Next, additional trips were distributed for selected segments/links on primary regional routes and modes of access to stations and similar facilities by adding No-Project volumes obtained from 2020 forecasts (from regional and local agencies), and 2020 travel demand generated by alternatives, to the key accessing facilities (roadways, transit links). This distribution was done at a screenline level to reduce the subjectivity of assigning trips to specific facilities.

Summary tables for the region were then completed that identify impacts on highways/roadways (at screenline), public transportation services, goods movement, and parking facilities. The impacts are described and ranked as ‘high’, ‘medium’, or ‘low’ in the summary table according to the potential extent of change to traffic, transit, circulation and parking.

1.1 ALTERNATIVES UNDER CONSIDERATION

1.1.1. No-Project Alternative

The No-Project Alternative serves as the baseline for the comparison of Modal and High-Speed Train alternatives (Figure 1.1). The No-Project Alternative represents the state's transportation system (highway, air, and conventional rail) as it existed in 1999-2000 and as it would be after implementation of programs or projects currently programmed for implementation and projects that are expected to be funded by 2020. The No-Project Alternative addresses the geographic area serving the same intercity travel market as the proposed high-speed train (generally from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego). The No-Project Alternative satisfies the statutory requirements under CEQA and NEPA for an alternative that does not include any new action or project beyond what is already committed.

The No-Project Alternative defines the existing and future statewide intercity transportation system based on programmed and funded (already in funded programs/financially constrained plans) improvements to the intercity transportation system through 2020, according to the following sources of information:

- State Transportation Improvement Program (STIP)
- Regional Transportation Plans (RTPs) for all modes of travel
- Airport plans
- Intercity passenger rail plans (California Rail Plan 2001-2010, Amtrak Five- and Twenty-year Plans)

Recent history and the uncertainties of transportation financing in California point to a reality that many of the improvements identified in those plans will not be implemented, even by 2020. That notwithstanding, the No-Project Alternative is the best projection that can be made of year 2020 conditions, based on current local and regional planning policy.

As with all of the alternatives, the No-Project Alternative will be assessed against the purpose and need topics/objectives for congestion, safety, air pollution, reliability, and travel times.

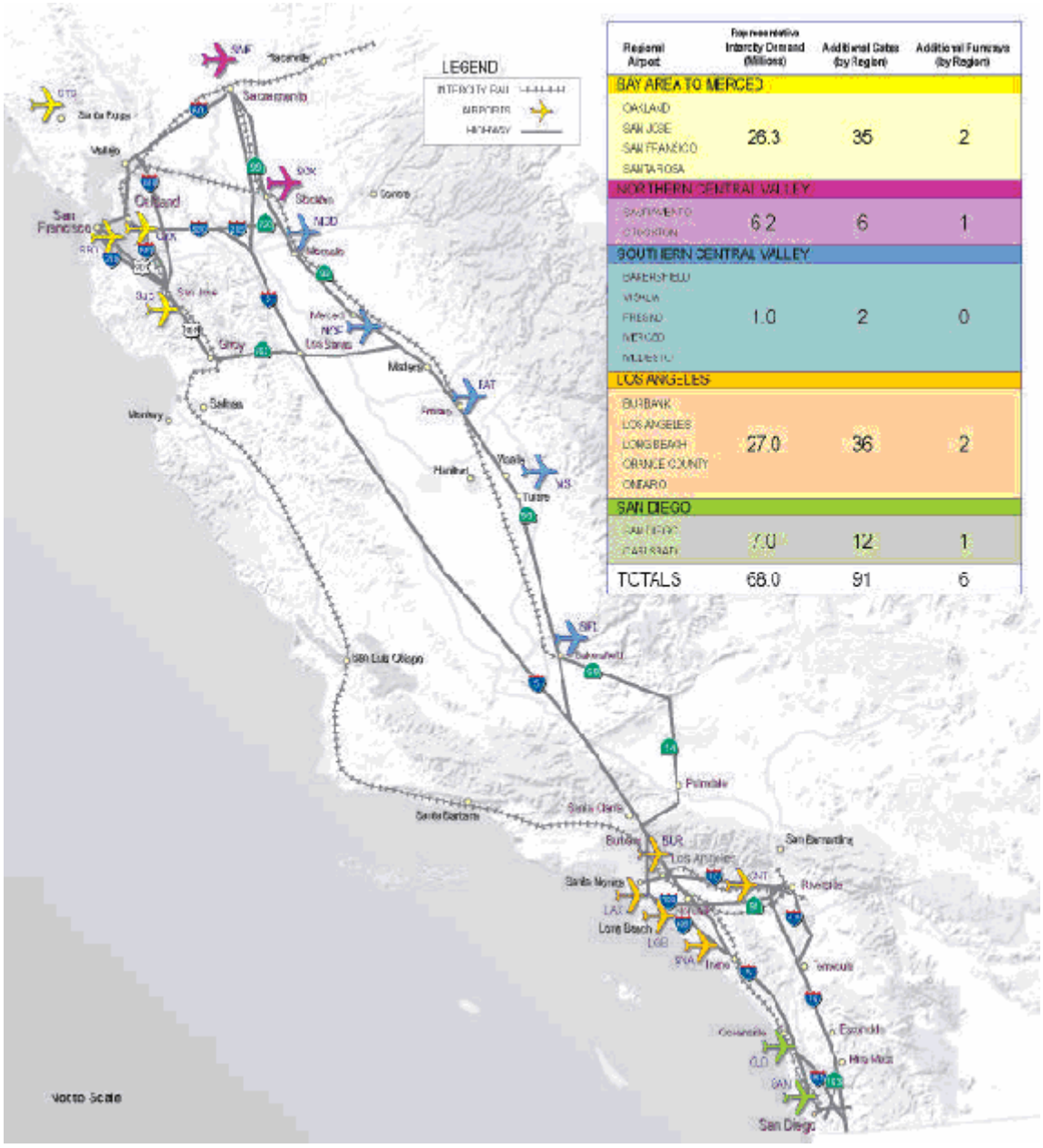
1.1.2 Modal Alternative

There are currently three main options for intercity travel between the major urban areas of San Diego, Los Angeles, the Central Valley, San Jose, Oakland/San Francisco, and Sacramento: vehicles on the interstate highway system and state highways, commercial airlines serving airports between San Diego and Sacramento and the Bay Area, and conventional passenger trains (Amtrak) on freight and/or commuter rail tracks. The Modal Alternative consists of expansion of highways, airports, and intercity and commuter rail systems serving the markets identified for the High-Speed Train Alternative (Figures 1.2 and 1.3). The Modal Alternative uses the same intercity travel demand (not capacity) assumed under the high-end sensitivity analysis completed for the high-speed train ridership in 2020. This same travel demand is assigned to the highways, airports, and passenger rail described under the No-Project Alternative.

Figure 1.1 No-Project Alternative – California Transportation System

Figure 1.2 Modal Alternative – Highway Component

Figure 1.3 Modal Alternative – Aviation Component



Regional Airport	Representative Intercity Demand (Millions)	Additional Gates (by Region)	Additional Runways (by Region)
BAY AREA TO MERCED			
OAKLAND SAN JOSE SAN FRANCISCO SANTA ROSA	26.3	35	2
NORTHERN CENTRAL VALLEY			
SACRAMENTO STOCKTON	6.2	6	1
SOUTHERN CENTRAL VALLEY			
BAKERSFIELD VISALIA FRESNO MERCED MODESTO	1.0	2	0
LOS ANGELES			
BURBANK LOS ANGELES LONG BEACH ORANGE COUNTY ONTARIO	27.0	36	2
SAN DIEGO			
SAN DIEGO CARLSBAD	7.0	12	1
TOTALS	68.0	91	6

The Modal Alternative adds capacity in discrete amounts to roadways and airports throughout the state. With the implementation of such an alternative, the traveling public is likely to respond to this new capacity by making use of the improved facilities for all trips; not just intercity trips. For example, on roadways where capacity is added traffic congestion may well be eased, making a particular roadway more attractive a route for travel than it had been previously; this new traffic will not necessarily be only intercity traffic but rather shorter trips within a region. An analogous situation at airports would be where transcontinental or international flights make use of the capacity that was added to meet the intercity demand. In the case of both roadways and airports, it is entirely possible that as the forecasted intercity demand is realized it will compete for capacity with non-intercity traffic in the air and on the road. This phenomenon cannot be evaluated quantitatively at the scale of this analysis; suffice it to say that the assessment of the Modal Alternative is likely to give an optimistic picture of the consequences of adding capacity to roadways and airports in terms of congestion and level of service.

The additional improvements or expansion of facilities are assumed to meet the demand, regardless of funding potential and without high-speed train service as part of the system.

The Modal Alternative for the Los Angeles to San Diego via the Inland Empire region consists of two major proposed improvements:

- Improvements to Highways: Consisting of additional highway lanes to provide sufficient highway capacity and associated interchange reconfiguration, crossing bridge widening, ramp widening, cross street and intersection widening (Figure 1.2). Within the study area corridor, these improvements, therefore, would occur along proposed portions of Interstates (I-) 10, 215, 15, and State Route (SR) 163. Table 1.1 lists the proposed highway improvements along the Los Angeles to San Diego via the Inland Empire corridor.

Table 1.1 Proposed Modal Alternative Highway Improvements
Los Angeles to San Diego via the Inland Empire

Highway Corridor	Segment (From – To)	No. of Additional Lanes[1] (Total – Both Directions)	No. Of Existing Lanes (Total – Both Directions)	Type of Improvement
I-10	I-5 to East San Gabriel Valley	2	10	widening
I-10	East San Gabriel Airport to Ontario Airport	2	8	widening
I-10	Ontario Airport to I-15	2	8	widening
I-10	I-15 to I-215	2	8	widening
I-15	I-10-I-215	2	8	widening
I-215	Riverside to I-15	2	6	widening
I-215	I-10 to Riverside	2	6	widening
I-15	I-215 to Temecula	2	10	widening
I-15	Temecula to Escondido	2	8	widening
I-15	Escondido to Mira Mesa	2	10	widening
I-15	Mira Mesa to SR-163	2	10	widening
SR-163	I-15 to I-8	2	8	widening

[1] Represents the number of through lanes in addition to the total number of existing lanes that approximate an equivalent level of capacity to serve the representative demand

- Improvements to Airports: Primarily consisting of improvements to terminal gates and runways to provide sufficient landside and airside capacity and associated taxiways, ground access, parking, terminal and support facilities and airports that can serve the same geographic area and demand as

the proposed High-Speed Train (HST) Alternative. Within the study area corridor, these proposed improvements would occur at Ontario International Airport (ONT) and the San Diego International Airport (SAN) (Figure 1-3). Table 1-2 lists the airport improvements associated with the Ontario and San Diego airports.

Table 1.2 Proposed Modal Alternative Airport Improvements – Year 2020 Los Angeles to San Diego via the Inland Empire

Airport Name	Additional Gates	Additional runways
Ontario International Airport	8	1
San Diego International Airport	12	1

Source: Parsons Brinckerhoff, November 2002

1.1.3 High-Speed Train Alternative

The Authority has defined a statewide high-speed train system capable of speeds in excess of 200 miles per hour (mph) (320 kilometers per hour [km/h]) on dedicated, fully grade-separated tracks, with state-of-the-art safety, signaling, and automated train control systems. State-of-the-art, high-speed, steel-wheel-on-steel-rail technology is being considered for the system that would serve the major metropolitan centers of California, extending from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego (Figure 1-4).

The High-Speed Train Alternative includes several corridor and station options. A steel-wheel-on-steel-rail, electrified train, primarily on exclusive right-of-way with small portions of the route on shared track with other rail is planned. Conventional "nonelectric" improvements are also being considered along the existing rail corridor from Los Angeles to San Diego through Orange County (LOSSAN). The train track would be at grade, in an open trench or tunnel, or on an elevated guideway, depending on terrain and physical constraints.

For purposes of comparative analysis the high-speed train corridors will be described from station to station within each region, except where a bypass option is considered when the point of departure from the corridor will define the end of the corridor segment.

As intercity trips are diverted to the proposed HST system, the highway and aviation facilities will initially become less congested. The traveling public is likely to respond to this newly available capacity by making use of the facilities for all trips; not just intercity trips, similar to the situation described for the additional capacity in the Modal Alternative. Again, this phenomenon cannot be evaluated quantitatively at the scale of this analysis; suffice it to say that the assessment of the HST Alternative is likely to give an optimistic picture of the consequences of relieving congestion on roadways and airports in terms of level of service.

As described in the introduction, the study area is broadly defined by the Los Angeles to San Diego via Inland Empire corridor segment, which may be broadly divided into three regional segments. Each segment has several alternative alignments for all or a portion of the length of the segment. For example, Segment 1 has three alternative alignments, listed as 1A, 1B, and 1C. Each segment is further subdivided into subsegments for analyzing and reporting potential impacts. The various segment options and subsegments, along with station locations, are described below.

1.1.3.1 Regional Segment 1 – Union Station to March Air Reserve Base Segment

1.1.3.1.1 Segment 1A

Subsegment 1A1: Union Station to Pomona
Subsegment 1A2: Pomona to Ontario (beginning of Segment 1C)

**Figure 1.4 High-Speed Train Alternative –
Corridors and Stations for Continued Investigation**

Subsegment 1A3: Ontario (beginning of Segment 1C) to Colton (end of Segment 1C)
Subsegment 1A4: Colton to March Air Reserve Base (ARB)

1.1.3.1.2 Segment 1B

Subsegment 1B1: Union Station to Pomona

1.1.3.1.3 Segment 1C

Subsegment 1C1: Ontario (beginning of Segment 1C) to Colton (end of Segment 1C)

Station Locations: El Monte (1A1), Pomona (1A2), Ontario (1A2), Colton (1A3), University of California at Riverside (1A4), South El Monte (1B1), City of Industry (1B1), and San Bernardino (1C1)

1.1.3.2 Regional Segment 2 – March ARB to Mira Mesa Segment

1.1.3.2.1 Segment 2A

Subsegment 2A1: March ARB to Escondido (beginning of Segment 2B)
Subsegment 2A2: Within Escondido (beginning to end of Segment 2B)
1.1.3.2.2 Subsegment 2A3: Escondido to Mira Mesa

1.1.3.2.3 Segment 2B

Subsegment 2B1: Within Escondido (Beginning to end of Segment 2B)

Station Locations: March ARB (2A1), Temecula (2A2), Escondido (2A2), and Escondido Transit Center(2B1)

1.1.3.3 Regional Segment 3 – Mira Mesa to San Diego Segment

1.1.3.3.1 Segment 3A

Subsegment 3A1: Mira Mesa to Qualcomm Stadium

1.1.3.3.2 Segment 3B

Subsegment 3B1: Within Mira Mesa (beginning and end of Segment 3C)
Subsegment 3B2: Mira Mesa (end of Segment 3C) to Downtown San Diego

1.1.3.3.3 Segment 3C

Subsegment 3C1: Within Mira Mesa (end of Segment 3C)

Station Locations: Mira Mesa (3A1), Qualcomm Stadium (3A1), Transit Center (3B2), San Diego International Airport (3B2), and Downtown San Diego (3B2)

2.0 BASELINE/AFFECTED ENVIRONMENT

2.1 STUDY AREA

Los Angeles-to-San Diego via the Inland Empire corridor will run from Los Angeles Union Station to Riverside along existing rail corridors or new rights-of-way and from Riverside to San Diego along the I-15/I-215 Corridor. The corridor is divided into three segments for analysis purposes as described in Section 1.2.3.

Based on the identified alignments, seventeen potential rail stations are identified and traffic, transit, circulation and parking analyses are performed for each proposed station. The proposed rail stations are El Monte, South El Monte, City of Industry, Colton, Pomona, Ontario International Airport North, San Bernardino, University of California at Riverside, March ARB, Temecula, Escondido Rock Springs Road Station, Mira Mesa Station, Qualcomm Station, Downtown Escondido Transit Center Station, University Town Center Transit Center Station, San Diego Airport Station, and Downtown San Diego Station, which are described below in further detail.

The intercity highways affected by the modal alternative within the Los Angeles and Riverside counties included I-10 and I-215 and within San Diego County included I-15 and SR 163.

The Ontario International Airport and San Diego International Airport are the only airports affected by the modal alternative within this corridor.

2.2 GENERAL DESCRIPTION OF TRANSPORTATION FACILITIES

The physical characteristics of HSR stations, intercity highways and airports are discussed in this section. See Appendix A for conceptual site plans for each station location. The following potential station locations have been identified:

- El Monte (West of the I-605 Along the UP Colton Line) - This site would provide connections with both Metrolink and local bus service from an adjacent bus transfer station. It also is located in the center of El Monte and offers good access from the surrounding community. The streets in the vicinity of the station are Durfee Avenue, Vally Boulevard and Garvey Avenue.

- South El Monte (East of the I-605 South of SR-60) - This site provides good access to and from the area freeway system. The streets in the vicinity of station are Peck Road, Workman Mill Road and Pellissier Place.

- City of Industry Station - This site provides good linkages with Metrolink commuter rail service and serves the East San Gabriel Valley. The streets and freeways in the vicinity of station are Valley Boulevard, Lemon Ave, Brea Canyon road, SR-60 and SR-57.

- Colton - This location is directly on the UP Colton Line with good accessibility from I-10. This location currently does not have good transit or multimodal connections. The streets in the vicinity of station are Locust Avenue, Cedar Avenue, Bloomington Avenue, San Bernardino Avenue, Valley Boulevard.

- Pomona Station - The Pomona Station allows a multimodal transfer station with Metrolink and local buses at an existing historic station site. The station is on the edge of the downtown area

and has reasonable access. The streets in the vicinity of station are Mission Boulevard and Garey Avenue,

- Ontario Airport North Station - A station here provides a multimodal connection with Ontario International Airport. The station site includes some land that is currently vacant.

- San Bernardino - This location serves the existing Santa Fe Depot that has both Amtrak and adjacent Metrolink service. There are issues with sitting a high-speed train station due to the train and BNSF intermodal facilities located there; however, it serves a major population center and it has good transit and multimodal connections. It has limited parking.

- University of California at Riverside - The existing right-of-way runs through this area and a new station site could be developed here. The streets and freeway in the vicinity of station are Watkins Drive, Canyon Crest Drive, Martin Luther King Boulevard and I -215.

- March Air Reserve Base (ARB) - This site is outside the city of Riverside and a station here would be a newly developed facility. As March ARB is redeveloped, a station site in this area could serve some of the planned development.

- Temecula – This site is located near the I-215/I-15 Junction. The streets in the vicinity of station are Murrieta Hot Springs road and Hancock Ave.

- Escondido Rock Springs Road Station – This site is located in the City of Escondido southwest of the I-15/El Norte Parkway interchange. The study area included I-15, El Norte Parkway, Nordahl Road and Rock Springs Road. Access to the station would be from Rock Springs Road and Borden Road, which provides access to El North Parkway.

- Mira Mesa Station – This site is located in the City of San Diego southwest of the I-15/Mira Mesa Boulevard interchange. The study area included I-15, Mira Mesa Boulevard, Hillery Drive, Westview Parkway, Black Mountain Road, and Carroll Canyon Road. Access to the station would be from Hillery drive, which has access to Westview Parkway and Black Mountain Road.

- Qualcomm Station – This site is located in the City of San Diego southwest of the I-15/Friars Road interchange. The study area included I-15, Friars Road, San Diego Mission, and Mission Village Drive. Access to the station would be from Friars Road.

- Escondido Transit Center Station – This site is located in the downtown area of the City of Escondido. The study area included I-15, SR-78, Quince Street, Center City Parkway, Washington Avenue, and Valley Parkway. Access to the station would be from Quince Street.

- University Town Center Transit Center Station – This site is located in the City of San Diego southwest of the I-805/Nobel Drive interchange. The study area included I-805, Nobel Drive, Towne Center Drive, and Genesee Avenue. Access to the station would be from Nobel Drive.

- San Diego Airport Station – This site is located in the City of San Diego south of the I-5/Washington Street interchange. The study area included I-5, Pacific frontage road, Pacific Highway, Witherby Street, Washington Street, and Hancock Street. Access to the station would be from Pacific frontage road.

- Santa Fe Depot San Diego Station – This site is located in the downtown area of the City of San Diego. The study area included Pacific Highway, Kettner Street, Ash Street, Broadway, and North Harbor Drive. Access to the station would be from Pacific Highway and from Kettner Street.

The baseline roadways to be used in the station analysis are summarized in Table 2.1.

Table 2.1. - Primary Roads Serving Stations

Station	Location
El Monte Station (1A)	Valley Blvd(Puente and Vineland) Durfee Ave(Peck and Valley) Peck Rd(Durfee and Mountain View) Garvey Ave(Tyler and Peck) Peck Rd(Ramona and Valley) Ramona Blvd(Cogswell and Durfee)
South El Monte Station (1B)	Workman Mill Rd(Peck and Rose Hills) Durfee Ave(Rosemead and Santa Anita) Santa Anita Ave(SR-60 and Durfee) Peck Rd(Mountain View and Durfee) Workman Mill Rd(SR-60 and Valley)
City of Industry Station (1B)	Colima Rd(Fairway and Lemon) Valley Blvd(Fairway and Lemon) Lemon Ave(Puente and Valley) Valley Blvd(Grand and Lemon) Golden Springs Dr(Diamond Bar and Grand) Grand Ave(Golden Springs and Diamond Bar)
Pomona Station (1A)	Holt Blvd(East End and Reservior) Mission Blvd(East End and Reservior) Reservoir St(Phillips and Grand) Towne Ave(Phillips and Grand) Garey Ave(Phillips and Grand) White Ave(Phillips and Grand) Mission Blvd(Dudley and Hamilton) Holt Blvd(Dudley and Hamilton) White Ave(McKinley and I-10) Garey Ave(La Verne and I-10) Towne Ave(I-10 and San Bernardino)
Ontario Station (1A)	Hermosa Ave(6th and 4th) Vineyard Ave(4th and Inland Empire) 4th St(Haven and Hermosa) Inland Empire Blvd(Haven and Archibald) Mission Blvd(Archibald and Vineyard) Archibald Ave(Juropa and Lowell) Holt Blvd(Groves and Vineyard) 4th St(Vineyard and Archibald) Archibald Ave(4th and Inland Empire)
Colton Station (1A)	Locust Ave(San Bernardino and Randall) Cedar Ave(San Bernardino and Randall) Bloomington Ave(San Bernardino and Randall) San Bernardino Ave(Cactus and Riverside)

	Valley Blvd(Cactus and Riverside) Slover Ave(Cedar and Riverside) Cedar Ave(Juropa and Santa Ana) Locust Ave(Juropa and Santa Ana) Santa Ana Ave(Alder and Locust) Slover Ave(Palmetto and Alder) Valley Blvd(Palmetto and Alder) San Bernardino Ave(Alder and Locust)
UCR Station (1A) (Riverside)	Watkins Dr(Blaine and SR-60) Canyon Crest Dr(Country Club and Central) University Ave(Chicago and Canyon Crest) Martin Luther King Blvd(Chicago and Canyon Crest)
San Bernardino Station (1C)	Rock Springs Rd(Nordahl Rd and W. Mission Ave) Nordahl Rd(Rock Springs Rd and El Norte Pkwy) El Norte Pkwy(Nordahl Rd and I-15) Mira Mesa Blvd(Black Mountain Rd and Westview Pkwy) Hillerly Drive(Black Mountain Rd and Maya Linda Road) Westview Pkwy(Mira Mesa Blvd and Hillery Drive) Black Mountain Rd(Mira Mesa Blvd and Carroll Canyon Rd) Carroll Canyon Ro(Black Mountain Rd and Scripps Ranch) Friars Rd(Qualcomm Wy and Mission Gorge Rd) San Diego Mission(Mission Village Dr and Mission Gorge Rd) Mission Village Dr(Ruffin Rd and Friars Rd) Quince St(W. Washington Ave and Valley Pkwy)
March ARB Station (1A) (Riverside)	Center City Pkwy(SR-78 and W. 9th Ave) W. Washington Ave(Rock Springs Rd and Broadway) Valley Pkwy(I-15 and Broadway) Nobel Dr(Genesee Ave and I-805) Towne Centre Dr(La Jolla Village Dr and Nobel Dr)
Temecula Station (2A) (Temecula)	Genesee Ave(La Jolla Village Dr and Governor Dr) Pacific (frontage rd)(Witherby St and Washington St) Pacific Highway(Witherby St and Washington St)
Escondido Station Segment 2A	Witherby St(Pacific Hwy and Hancock St) Washington St(Pacific Hwy and Hancock St) Hancock St(Witherby St and Washington St)
Mira Mesa Station Segment 2A	Pacific Highway(Hawthorn St and Harbor Dr) Kettner (1-way)(Hawthorn St and Harbor Dr) Ash (1-way)(North Harbor Dr and State St) Broadway(North Harbor Dr and State St) North Harbor Dr(Hawthorn St and Pacific Hwy)
Qualcomm Station Segment 3A	Rock Springs Rd(Nordahl Rd and W. Mission Ave) Nordahl Rd(Rock Springs Rd and El Norte Pkwy) El Norte Pkwy(Nordahl Rd and I-15)
Escondido Transit Center Station Segment 2B	Mira Mesa Blvd(Black Mountain Rd and Westview Pkwy) Hillerly Drive(Black Mountain Rd and Maya Linda Road) Westview Pkwy(Mira Mesa Blvd and Hillery Drive)

	Black Mountain Rd(Mira Mesa Blvd and Carroll Canyon Rd)
University Town Center Transit Center Station Segment 3B	Carroll Canyon Ro(Black Mountain Rd and Scripps Ranch) Friars Rd(Qualcomm Wy and Mission Gorge Rd) San Diego Mission(Mission Village Dr and Mission Gorge Rd)
San Diego Airport Station Segment 3B	Mission Village Dr(Ruffin Rd and Friars Rd) Quince St(W. Washington Ave and Valley Pkwy) Center City Pkwy(SR-78 and W. 9th Ave) W. Washington Ave(Rock Springs Rd and Broadway) Valley Pkwy(I-15 and Broadway)
Downtown San Diego Station Segment 3B	Nobel Dr(Genesee Ave and I-805) Towne Centre Dr(La Jolla Village Dr and Nobel Dr) Genesee Ave(La Jolla Village Dr and Governor Dr) Pacific (frontage rd)(Witherby St and Washington St) Pacific Highway(Witherby St and Washington St)

The baseline transit routes and roadways within the vicinity of stations are summarized in Table 2.2.

Table 2.2 - Primary Roads Serving Stations with Bus Routes

Station	Streets	Bus Route	Destination
El Monte Station (1A)	2.2.1.1.1.1.1.1	FT495 2.2.1.1.1.1.1.2	-Diamond Bar/Rowland Heights Express Service To Downtown Los Angeles -Fairplex Park - Ride Express Service To Downtown Los Angeles
	Valley Blvd	270 484	-Monrovia/El Monte/Whittier/Santa Fe Springs/Norwalk/Cerritos -Pomona/La Puente/Valley Bl./LAExpress
	I-605	FT495 2.2.1.1.2 FT493	-Diamond Bar/Rowland Heights Express Service To Downtown Los Angeles -Phillips Ranch/Rowland Heights Express Service To Downtown Los Angeles
	Durfee Ave	270	-Monrovia/El Monte/Whittier/Santa Fe Springs/Norwalk/Cerritos
	Peck Rd	EMYEL 270	-Tyler Av./Fineview St./Magnolia St./Elliot Av./Valley Bl./Santa Anita -Monrovia/El Monte/Whittier/Santa Fe Springs/Norwalk/Cerritos
	Garvey Ave	70 EMGRE FT486 FT493	-LA/El Monte via Garvey Av. -Mountain View Rd./Elliot Av./Garvey Av./Mildred St./Ramona Bl. -Cal Poly Pomona/Puente Hills Mall/ Baldwin Park/El Monte Busway Station/ Los Angeles -Phillips Ranch/Rowland Heights Express Service To Downtown Los Angeles
	Ramona Blvd	490 FT488	-CSU Fullerton/Brea Mall/Lanterman Developmental Center./Cal Poly Pomona/ Walnut/Covina/Baldwin Park -Glendora/West Covina/El Monte Busway Station/Los Angeles
South El Monte Station (1B)	Workman Mill Rd	270 FT274	-Monrovia/El Monte/Whittier/Santa Fe Springs/Norwalk/Cerritos -Whittier-Glendora, Puente Av./Citrus Av.

		NW1	-Rio Hondo/Bellflower
	I-605	FT495 FT493	-Diamond Bar/Rowland Heights Express Service To Downtown Los Angeles -Phillips Ranch/Rowland Heights Express Service To Downtown Los Angeles
	San Gabriel River Pkwy	M60	-North Pico Rivera to South Pico Rivera
	Durfee Ave	M60 265	-North Pico Rivera to South Pico Rivera -Lakewood/Paramount Bl./Pico Rivera
	Santa Anita Ave	FT269 FT482	- El Monte Bus Station/ Montebello Town Center -Los Angeles/Hacienda Heights/Pomona via Colima Rd.
	Peck Rd	270 EMYEL	-Monrovia/El Monte/Whittier/Santa Fe Springs/Norwalk/Cerritos -Tyler Av./Fineview St./Magnolia St./Elliot Av./Valley Bl./Santa Anita
City of Industry Station (1B)	SR-57		
	Colima Rd	FT482 FT495 FT493	- Los Angeles/Hacienda Heights/Pomona via Colima Rd. -Diamond Bar/Rowland Heights Express Service To Downtown Los Angeles -Phillips Ranch/Rowland Heights Express Service To Downtown Los Angeles
	SR-60		
	Valley Blvd	484 FT482	-Pomona/La Puente/Valley Bl./LAExpress -Los Angeles/Hacienda Heights/Pomona via Colima Rd.
	Lemon Ave	484 FT289	-Pomona/La Puente/Valley Bl./LAExpress -Puente Hills Mall-Walnut/Pomona
	Golden Springs Dr	FT853 FT493 FT495 OC757 FT482 FT854	-Golden Springs/Diamond Bar Ranch High School -Phillips Ranch/Rowland Heights Express Service To Downtown Los Angeles -Diamond Bar/Rowland Heights Express Service To Downtown Los Angeles -Santa Ana/Brea/Diamond Bar Park – Ride -Los Angeles/Hacienda Heights/Pomona via Colima Rd. -Golden Springs/Diamond Bar Ranch High School Via Diamond Bar Bl.
	Grand Ave	490 484 FT178 FT289	-CSU Fullerton/Brea Mall/Lanterman Developmental Center./Cal Poly Pomona/ Walnut/Covina/Baldwin Park -Pomona/La Puente/Valley Bl./LAExpress -Cal Poly Pomona via Puente Av./El Monte Busway Station -Puente Hills Mall/Walnut/Pomona
Pomona Station (1A)	Holt Blvd	484 FT482 FT292 FT294 FT195 FT855	-Pomona/La Puente/Valley Bl./LAExpress -Los Angeles/Hacienda Heights/Pomona via Colima Rd. -Pomona/Claremont/Montclair -Pomona/Claremont Colleges/ Claremont/Montclair -Cal Poly Pomona via Reservoir St. -Pomona TransCenter/ Claremont
	Mission Blvd	FT480	- Wilshire District/Los Angeles/El Monte/West Covina/Pomona/Claremont/Montclair
	East End Ave		
	Reservoir St	FT195	-Cal Poly Pomona via Reservoir St.
	Towne Ave	FT291	-Garey Av./Foothill Bl.
	Garey Ave	FT291 FT193	-Garey Av./Foothill Bl. -Cal Poly Pomona via Ninth St.
	White Ave	FT193 FT852	-Cal Poly Pomona via Ninth St. -Pomona TransCenter/ Fairplex
	I-10	FT699 FT190	-Fairplex Park - Ride Express Service To Downtown Los Angeles -Montclair/Pomona Fairplex-Cal Poly Pomona
	White Ave	FT193 FT852	-Cal Poly Pomona via Ninth St. -Pomona TransCenter/ Fairplex

	San Bernardino Ave	FT855 FT192	-Pomona TransCenter/ Claremont
Ontario Station (1A)	Hermosa Ave		
	Haven Ave	60 67 68 70	-Chaffey College/Ontario Mills -Fontana/Chaffey College -Indian Hill/Montclair/Chaffey College -Montclair/Ontario/Rancho Cucamonga
	4th St	60 61 63 65 68 70	-Chaffey College/Ontario Mills -Fontana/Ontario/Pomona -Chino/Ontario/Upland -Montclair/Chino Hills -Indian Hill/Montclair/ Chaffey College -Montclair/Ontario/Rancho Cucamonga
	Ontario Mills Pkwy		
	I-10 Fwy	90	-Montclair/Ontario/San Bernardino
	Airport Dr		
	Jurupa St	29 70 71	-Fontana/Cedar/North Rialto -Montclair/Ontario/Rancho Cucamonga -Fontana/Country Village/Ontario
	Archibald Ave	60 61 70-A 71	-Chaffey College/Ontario Mills -Fontana/Ontario/Pomona -Montclair/ Ontario/Rancho Cucamonga -Fontana/Country Village/Ontario
	Holt Blvd	61 63 70	-Fontana/Ontario/Pomona -Chino/Ontario/Upland -Montclair/Ontario/Rancho Cucamonga
Colton Station (1A)	Locust Ave		
	Cedar Ave	29	-Fontana/Cedar/North Rialto
	Bloomington Ave		
	San Bernardino Ave	19 61	-Redlands/Colton/Fontana -Fontana/Ontario/Pomona
	Valley Blvd	22 1	-North Rialto/South Rialto -Colton/Del Rosa
	I-10 Fwy	90	-Montclair/Ontario/San Bernardino
	Slover Ave	29 71	-Fontana/Cedar/North Rialto -Fontana/Country Village/Ontario
	Cedar Ave	29	-Fontana/Cedar/North Rialto
	Santa Ana Ave	29	-Fontana/Cedar/North Rialto
	Slover Ave	29 71	-Fontana/Cedar/North Rialto -Fontana/Country Village/Ontario
UCR Station (1A)	Watkins Dr		
	SR-60		-Downtown Terminal to Moreno Valley City Hall—Riverside/ Moreno Valley
	Canyon Crest Dr	Orange Blossom Express Trolley 16	-Downtown Riverside; Riverside Market Place; University of California, Riverside 31 -Downtown Terminal to Moreno Valley City Hall—Riverside/ Moreno Valley
	Central Ave	13 16 20 99	-UCR to Galleria at Tyler -Downtown Terminal to Moreno Valley City Hall—Riverside/ Moreno Valley -Magnolia Center, RCR Med. Cntr, Moreno Valley Community Hospital -Moreno Valley to Riverside Metrolink Station
	Martin Luther King	16	-Downtown Terminal to Moreno Valley City Hall—Riverside/

	Blvd	99	Moreno Valley -Moreno Valley to Riverside Metrolink Station
San Bernardino Station (1C)	Medical Center Dr		
	Mount Vernon Ave	1 4	-Colton/Del Rosa - San Bernardino/Baseline/Highland / West San Bernardino/Highland
	I-215	100	-Riverside/San Bernardino
	5th St	7 14	-San Bernardino/Sierra Way/Verdemonte -Fontana/Foothill/San Bernardino
	Rialto Ave	8 9 15	-San Bernardino/Mentone/Yucaipa -San Bernardino/Mentone/Yucaipa -Fontana/Rialto/San Bernardino
	Mill St	15 8	-Fontana/Rialto/San Bernardino -San Bernardino/Mentone/Yucaipa
	E St	2	-Cal State/Loma Linda
	La Cadena	19	-Redlands/Colton/Fontana
	Rancho Ave	15	-Fontana/Rialto/San Bernardino
	Mill St	8 15	-San Bernardino/Mentone/Yucaipa -Fontana/Rialto/San Bernardino
	Foothill Blvd	14 66	-Fontana/Foothill/San Bernardino -Fontana/Foothill/Montclair
March ARB Station (1A)	Van Buren Blvd	10 21 27	-Downtown Terminal to the Galleria at Tyler/Lincoln Avenue -Galleria at Tyler to Country Village -Galleria at Tyler to Florida & Lincoln, Hemet/Riverside/Perris/Sun City/Hemet
	I-215 Fwy	19 27 37 100	-Moreno Valley Mall to Perris to Sun City/Moreno Valley/Perris/Sun City -Galleria at Tyler to Florida & Lincoln, Hemet/Riverside/Perris/Sun City/Hemet -Perris, Sun City, Hemet, Temecula, MSJ College/Menifee -Downtown Terminal to 4th Street Transit Mall/Riverside, San Bernardino
	Frederick St	18 19 35 99	-Moreno Valley Mall to RCC-Moreno Valley/Moreno Valley/RCC Campus, Moreno Valley -Moreno Valley Mall to Perris to Sun City/Moreno Valley/Perris/Sun City -Banning/Beaumont to Moreno Valley -Moreno Valley to Riverside Metrolink Station
Temecula Station (2A)	Murrieta Hot Springs Rd	23	-Temecula/Murrieta
	Los Alamos Rd		
	I-15 Fwy	8 37	-Lake Elsinore -Perris, Sun City, Hemet, Temecula, MSJ College/Menifee
	Hancock Ave		
	I-215 Fwy	37 100	-Perris, Sun City, Hemet, Temecula, MSJ College/Menifee -Downtown Terminal to 4th Street Transit Mall/Riverside, San Bernardino
	Los Alamos Rd		
	Murrieta Hot Springs Rd	23	-Temecula/Murrieta
Escondido Station	Interstate 15		
	City Centre Parkway to El Norte Parkway	None	
	El Norte Parkway to SR-78	None	
	SR 78 to Valley Parkway	None	

	Rock Springs Road		
	Nordahl Road to West Mission Avenue	356	El Norte Pkwy/City Centre Pkwy Loop
	Nordahl Road		
	Rock Springs Road to El Norte Parkway	None	
	El Norte Parkway		
	Nordahl Road to I-15	359/359	Downtown Escondido Loop
Mira Mesa Station	Interstate 15		
	Scripps Poway Parkway to Mira Mesa Blvd.	20/810/820/850/860 / 980/990	Various destinations, All Express
	Mira Mesa Boulevard to Carroll Canyon Road	810/820/850/ 860/980/990	Various destinations, All Express
	Mira Mesa Boulevard		
	Black Mountain Road to Westview Parkway	21/964/963/30/210	Various Destinations
	Hillery Drive		
	Black Mountain Road to Maya Linda Road	None	
	Westview Parkway		
	Mira Mesa Boulevard to Hillery Drive	None	
	Black Mountain Road		
	Mira Mesa Boulevard to Carroll Canyon Road	963/964/20/210/990 / 980	Various Destinations
	Carroll Canyon Road		
	Black Mountain Road to Scripps Ranch	31/30/990/980	Various Destinations
Qualcomm Station	Interstate 15		
	Aero Drive to Friars Road	60	UTC to Euclid Trolley
	Friars Road to Interstate 8	60	UTC to Euclid Trolley
	Friars Road		
	Qualcomm Way to Mission Gorge Road	13	SDSU to Fashion Valley
	San Diego Mission		
	Mission Village Drive to Mission Gorge Road	None	
	Mission Village Drive		
	Ruffin Road to Friars Road	13	SDSU to Fashion Valley
Escondido Transit Center Station	Interstate 15		
	SR-78 to Valley Parkway	None	
	Valley Parkway to Auro Park Way	None	
	SR-78		
	Interstate 15 to City Centre Parkway	320	Oceanside-Escondido
Escondido Transit Center	Quince Street		

Station (cont.)	W. Washington Avenue to Valley Pkwy.	347	Escondido-CSU San Marcos
	City Centre Parkway		
	SR-78 West 9th Avenue	810, 878	Various Destinations
	W. Washington Avenue		
	Rock Springs Road to Broadway	None	
	Valley Parkway		
	state 15 to Broadway	348, 308, 810	Various Destinations
University Town Centre Station	Interstate 805		
	Miramar Road to Nobel Drive	60/210	UTC-EU Trolley/Mira M. to Kearny M.
	Nobel Drive to Governor Drive	60/210	UTC-EU Trolley/Mira M. to Kearny M.
	Nobel Drive		
	Genesee Avenue to Interstate 805	None	
	Town Centre Drive		
	La Jolla Village Drive to Nobel Drive	150	UTC to Downtown San Diego
	Genesee Avenue		
	La Jolla Village Drive to Genesee Avenue	34/41/5	Various Destinations
San Diego Airport Station	Interstate 5		
	Interstate 8 to Washington Street	30/50/150	Various Destinations
	Washington Street to Pacific Viaducts	30/50/150	Various Destinations
	Pacific Highway		
	Witherby St. to Washington St. (Frontage Rd)	None	
	Witherby Street to Washington Street	34/34A/908	Various Destinations
	Witherby Street		
	Pacific Highway to Hancock Street	None	
	Washington Street		
	Pacific Highway to Hancock Street	908	North Park to Sports Arena
	Hancock Street		
	Witherby Street to Washington Street	None	
Downtown San Diego Station	Pacific Highway		
	Hawthorn Street to Harbor Drive	2/4/40/70	Various Destinations
	Kettner Boulevard (1-way)		
	Hawthorn Street to Harbor Drive	5	UTC to Downtown San Diego
	Ash Street (1-way)		

	North Harbor Drive to State Street	16	Sierra Mesa to Downtown San Diego
	Broadway		
	North Harbor Drive to State Street	15 different routes	County Wide
	North Harbor Drive		
	Hawthorn Street to Pacific Highway	16 different routes	County Wide

The following intercity highways have been identified for analysis:

- I-10 from I-5 to East San Gabriel Valley - This freeway section consists of a total of 8 mainline lanes in rolling terrain.
- I-10 from I-5 East San Gabriel Valley to Ontario Airport - This freeway section consists of a total of 8 mainline lanes in rolling terrain.
- I-10 from Ontario Airport to I-15 - This freeway section consists of a total of 8 mainline lanes in rolling terrain.
- I-10 from I-15 to I-215 - This freeway section consists of a total of 8 mainline lanes in rolling terrain.
- I-15 from I-10 to I-215 - This freeway section consists of a total of 6 mainline lanes in rolling terrain.
- I-215 from Riverside to I-15 - This freeway section consists of a total of 6 mainline lanes in rolling terrain.
- I-215 from I-10 to Riverside - This freeway section consists of a total of 4 mainline lanes in rolling terrain.
- I-215 from I-15 to Temecula - This freeway section consists of a total of 8 mainline lanes in rolling terrain.
- I-15 from Temecula to Escondido – This freeway section consists of a total of 8 mainline lanes in rolling terrain.
- I-15 from Escondido to Mira Mesa – This freeway section consists of a total of 10 mainline lanes in rolling and level terrain.
- I-15 from Mira Mesa to SR 163 – This freeway section consists of a total of 10 mainline lanes in level terrain.
- SR 163 from I-15 to I-8 – This freeway section consists of a total of 8 mainline lanes in level and rolling terrain.

The following airport facilities have been identified for analysis:

Ontario International Airport – This airport is located approximately 40 miles east of Los Angeles in the Inland Empire region. The medium-hub airport is owned and operated by the City of Los Angeles through Los Angeles World Airports (LAWA), which also owns and operates Los Angeles International, Van Nuys and Palmdale Regional Airports. The cordon streets for this analysis included Airport Dr WB (Commerce Pkwy and Haven), Airport Dr EB (Grove and Vineyard), Vineyard (D St and Holt), Archibald (I-10 Fwy and Airport Dr)

San Diego International Airport – This airport is the primary commercial service airport in the San Diego region. It is served by one runway and is classified as a “large hub” commercial airport by the Federal Aviation Administration. The cordon streets for this analysis included Pacific Highway, Laurel Street, Hawthorn Street, Grape Street, and North Harbor Drive.

2.3 SCREENLINES COMBINING SEGMENTS OF THE PRIMARY ROUTES

The screenlines, collector level or higher roadways that would provide primary access to the stations, are identified as streets that intersect a cordon within a one mile radius of the proposed rail stations. These streets are considered for screenlines and establish a perimeter that captures traffic crossing the boundary to each station. Screenlines for each station are shown in Figures 2.1 through 2.19.

Figure 2.1 El Monte Station Segment 1A

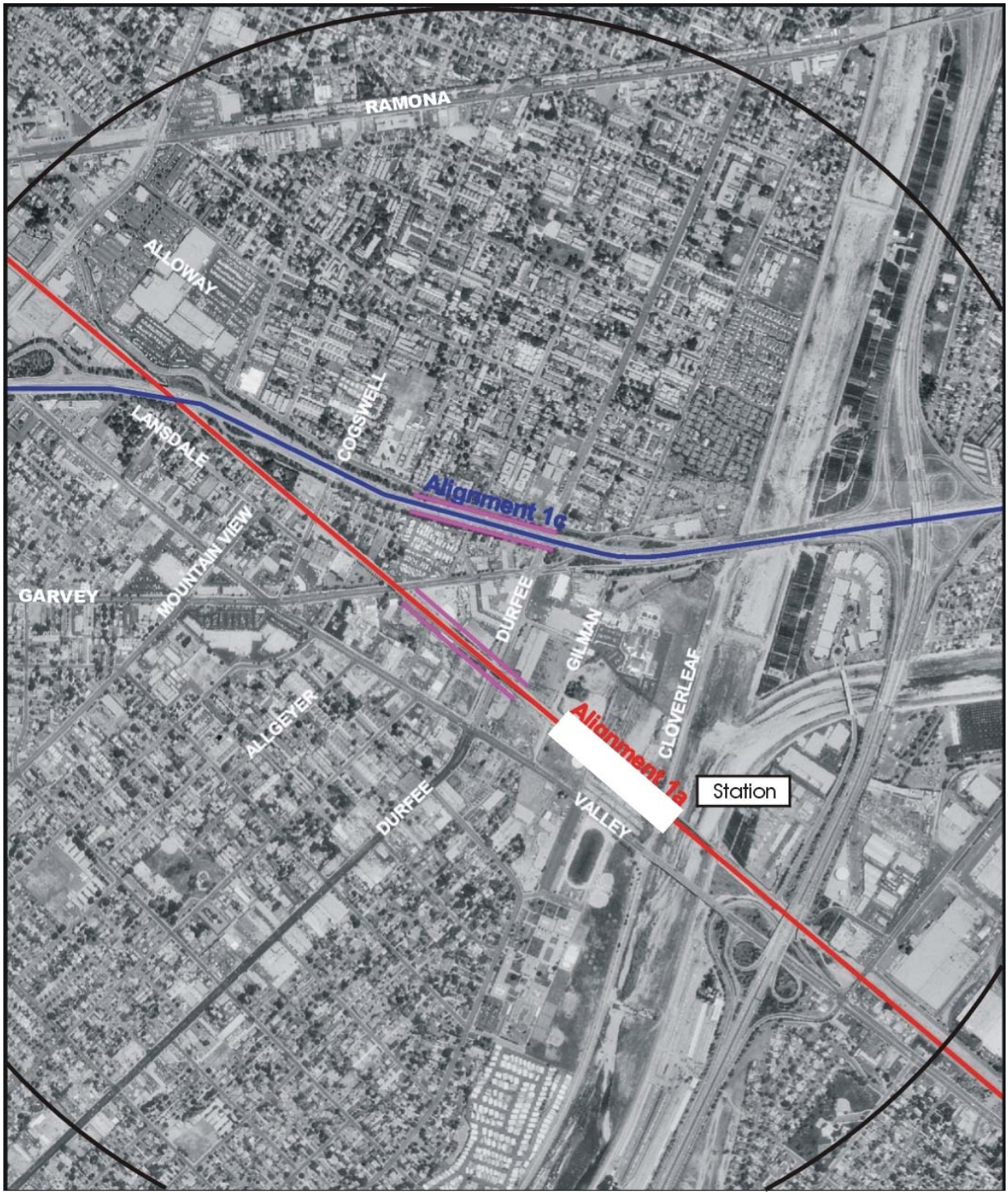


Figure 2.2 South El Monte Station Segment 1B

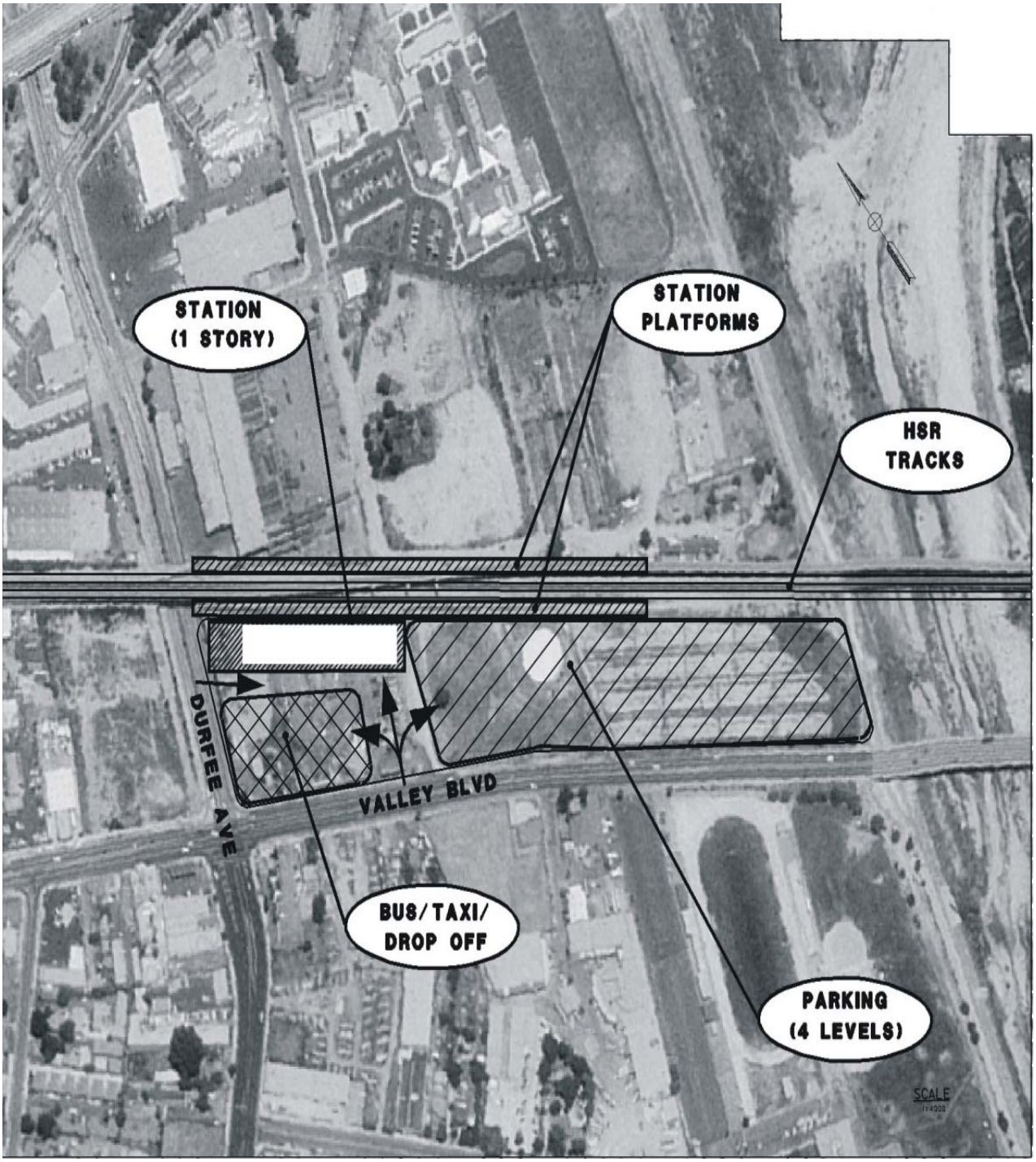


Figure 2.3 Industry Station Segment 1B